

# T H E I B I S.

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XXXIII.—*Notes on Birds found Nesting on Albatross Island\* in Bass Strait, Australia.* By D. LE SOUËF.

ON November 26th, 1894, I landed on Albatross Island, accompanied by Mr. H. P. C. Ashworth. I remained there five days, and found the following eleven species of birds nesting:—

1. DIOMEDEA CAUTA. (*Shy Albatross.*)

These beautiful birds were nesting in several small companies on different parts of the island: the largest colony having about forty nests, and the smallest only six. They built in some instances on the rocky ledges of the cliff, at various heights, but the larger number were on the top of the island, near the edge of the cliff. The rocky ground at the "rookery" was quite bare of vegetation, and mostly covered with white guano. The male and female sit on the nest in turn, and on one occasion I saw a male bird take the place of a female, who then flew off to sea.

There is very little difference between the appearance of the male and female—the grey coloration on the side of the neck being slightly darker and the yellow markings on the beak brighter in the male,—but I did not notice any material

\* [Albatross Island is one of the Hunter Islands, off the north-western point of Tasmania.—EDD.]

difference in their size. The breadth across the wings, when stretched out, was 8 feet from tip to tip. Frequently, when one bird is on the nest, its mate will be seen sitting close alongside, and they cackle one to the other and rub their beaks together. Again, when two strange birds meet, they stretch out their necks, make a loud cackling noise, and, spreading out their tails, lean forward and put their heads several times first on one side and then on the other side of each other; and when a bird makes its way through the colony, every sitting bird that it passes makes a lunge at it with open beak, and it has to run the gauntlet while passing through.

The nests are situated at varying distances one from the other, from a foot upwards, some on the ground and others again on the uneven side or top of a point of rock. Some of the birds had evidently come on shore to rest only, while a few of them had their heads turned back and partially under their wings, and were asleep.

When one wished to fly, it had to walk to the edge of the cliff and go off with a downward sweep; but when the wind was blowing very strong the bird could then rise, facing it, from a point of rock. One bird was found in a depression about 60 feet across and 30 feet deep, with steep sides, and it could neither climb nor fly out, so, having caught it, I climbed up the bank with the bird under my arm and took it back to the "rookery." Their nests had the appearance of being used year after year, probably being only renovated each season. One unused nest was seen; it was in good preservation, although it had a little vegetation growing on it.

This species was named the "Shy Albatross" by Gould; but nothing of the nature of shyness was noticed either at sea or on land, for when crossing Bass Strait the birds frequently came within a few feet of the vessel and settled on the water again and again 20 feet away, in their endeavours to secure the barracouta hook which was dragging through the water. The hook was baited with a piece of wood and red flannel, and they were easily caught with a hook and line. Sir Walter Buller was informed by a collector that these birds nested

on the Snares on high rocks, and rose off their nests on being approached and circled high in the air; but I think his informant must have mistaken the bird, as this Albatross cannot rise off its nest, unless under exceptional circumstances. Those on this island took very little notice of a visitor, and one could walk anywhere through the "rookery" without disturbing them; it was only with considerable difficulty and force that they could be made to leave their nests. A far more suitable name would have been the "White-capped Albatross," as the cap is pure white, marked off by the dark shading on each side of the eye, and this feature is very striking.

On approaching very close to the birds they would partly stand up on their nest (see figure, p. 417), leaning backwards and apparently resting the tail on the edge of the nest, and then facing the intruder. When one was within two feet of them, they would utter a loud cackling noise, shaking their heads up and down and opening and shutting their beaks rapidly. A considerable noise was made by the mandibles coming together, and at the same time a strong-smelling oily secretion was thrown up. In order to secure an egg, the beak of the bird was caught hold of with one hand and the egg taken up with the other, and on stepping back the beak was let go again; the bird would sit or stand on its nest for some time afterwards.

The orange-coloured strip of bare skin which goes from the corners of the mouth towards the back of the head was noticed only when the bird was disturbed and opened its beak wide to eject the oily substance. The use of it seems to be to enable the bird to open its mouth much wider than it otherwise could, for the purpose of letting the young bird put its head well inside the mouth of the parent when being fed.

The birds often had difficulty in alighting on a particular spot when the wind was blowing strongly on to their breeding-ground from the sea, as they always flew against the wind when desiring to alight, and I have watched them sometimes try seven or eight times before they could successfully

accomplish their object. They came up with considerable force, holding their heads well back and stretching out their expanded feet at the same time, and the fact of having their wings half closed gave them a very ungainly appearance when alighting. If there is only a light breeze they can alight easily enough, although they often stumble before gaining a proper foothold. I noticed that whenever they flew off they always shook their tails from side to side a few times, and also when they passed excreta while flying they did the same thing.

Only one egg is laid, and that probably during the first week in October; and all the eggs hatch out within a few days of each other, showing that the birds commence laying at nearly the same time. About half the nests had newly-hatched young in them, and the eggs taken had young ones just ready to hatch; two addled eggs were obtained. The young are very fat and helpless, and if held up by their legs a small amount of oil runs out of their mouths; they are covered with white down and their beaks are black. They generally lie down in the nest, laying their head on one side, and at first sight have the appearance of being dead. When feeding they put their head right into the parent's mouth, their food consisting of an oily-looking substance.

On a warm day the parent bird was often noticed partly standing up in the nest and leaning backwards, so as to leave the chick uncovered, I presume for the sake of coolness, and also to let the little one sit up and move about in the nest. No young one was seen without the parent bird being on the nest.

The birds sat very closely on their single egg. This was kept in a kind of longitudinal bag, bare of feathers just below the breast-bone, into which the egg fitted, and was consequently very warm. Even when the bird half stood up in the nest the egg could not always be seen, but when the bird moved about the egg came down. The nests being dry, the eggs kept fairly clean; most of them were freckled more or less with reddish-brown surface-markings on the larger end. In some cases these markings were minute, numerous, and



*Diomedea cauta* on nest, with young.

almost continuous, while in others they were much larger and darker, on a slightly reddish ground, but there were various gradations between the two types. The colour could be washed off, by a little friction. The following are the measurements of six :—(A)  $4\cdot50 \times 2\cdot62$  inches ; (B)  $4\cdot15 \times 2\cdot75$  ; (C)  $4\cdot17 \times 2\cdot68$  ; (D)  $4\cdot15 \times 2\cdot61$  ; (E)  $4\cdot20 \times 2\cdot76$  ; (F)  $4\cdot38 \times 2\cdot70$ .

The nest is composed of chocolate-coloured soil, largely mixed, when in a wet state, with rootlets and other vegetation, which gives it the appearance of peaty substance. It is smoothed over and holds together fairly well, varying in height externally from 3 to 7 inches. The measurements of an average nest are as follows :—Internal diameter  $11\frac{1}{2}$  inches ; external diameter 14 ; basal diameter  $16\frac{1}{2}$  ; external height  $5\frac{1}{2}$  ; internal depth  $3\frac{3}{4}$ . Weight 7 lbs.  $6\frac{1}{2}$  oz.

## 2. PRION TURTUR. (*Dove-like Prion.*)

These delicate little birds were nesting all over the island ; they made their shallow burrows under the thick matted grass and other vegetation, and also occasionally laid in a sheltered recess under a rock. They probably commence laying about the last week in October. No young birds were found, but most of the eggs were partly incubated. When disturbed the parents never attempted to fly away, but generally left their eggs and tried to hide themselves in another part of the burrow. None were seen about the island during the day, but as soon as darkness set in they came flying in from sea to their various nests, and evidently left again before daybreak. Both the male and female were found sitting. On one occasion one flew at night into the cave in which the tent was pitched and was easily secured. These birds were first found breeding in Bass Strait in 1890, on North-east Island, one of the Kent group, by some members of the Victorian Field Naturalists' Club. Only one egg is laid, which is pure white : the following are the measurements of six taken on the island :—(A)  $1\cdot81 \times 1\cdot37$  inches ; (B)  $1\cdot77 \times 1\cdot43$  ; (C)  $1\cdot88 \times 1\cdot37$  ; (D)  $1\cdot87 \times 1\cdot32$  ; (E)  $1\cdot89 \times 1\cdot36$  ; (F)  $1\cdot83 \times 1\cdot38$ .

3. EUDYPTULA MINOR. (*Little Penguin.*)

4. EUDYPTULA UNDINA. (*Fairy Penguin.*)

These birds were extremely numerous; they had their nests both under rocks and in crevices near the water's edge, and also on the top of the island under tussocks of grass and other herbage; in fact the whole island was a large Penguin "rookery," as their nests were found everywhere. Just before dark they approached their landing-places in flocks of some thirty birds. They waited about one hundred yards out from the land for some little time before coming in, and occasionally two flocks were to be seen not far from one another; the members of each flock keeping very close together. After a time one lot would rapidly approach the land, swimming both on and under the surface, and coming in just behind the break of the swell. Thus they looked exactly like a shoal of fish, with their shining bluish backs and silvery-white bellies, swimming quickly through the water. They all endeavoured to get a foothold on the rocks before the drawback carried them away again, and there was a great deal of squealing and splashing about in the water in their haste to accomplish it. This many of them did, but the remainder were carried back, only to be brought in again by the succeeding swell, when probably they made good their landing. To avoid being dashed to pieces against the rugged rocks by the heavy sea as it comes thundering in, they turn round and swim rapidly against the surf, which prevents their coming against any obstacle with so much force as they otherwise would when being carried in; and when the swell has spent itself, and just before the drawback occurs, they endeavour to secure a landing. Now and then a pair of birds may be seen hurrying in by themselves, but as a rule they arrive in companies.

The birds, when first seen approaching the island, were in a compact flock, and did not collect together just before coming on shore, so it is probable that they keep together when out at sea during the day. After landing they assembled just above high-water mark, and remained there for some time preening their feathers. When about half-an-hour had

elapsed after the first contingent landed, and the numbers had been augmented by fresh arrivals to over 100 birds, one would start along their well-worn track, and the others would all follow, but they soon branched off along the different paths that led to their various nests. Many ascended steep inclines to reach the top of the island, and it was astonishing to see them climbing up at an angle of 60 degrees and more, occasionally aiding themselves with their wings and beak, sometimes walking, sometimes hopping from rock to rock.

On reaching their mates on the nest they commenced their peculiar braying sound, first one bird and then the other; and in the caves, where numbers of these birds had their nests, the sound was kept up more or less all night. The noise is very loud and discordant. Two slightly different notes were heard; possibly one was made by the Little and the other by the Fairy Penguin. The two kinds of birds did not seem to land at the same time, but got mixed up when congregating on the landing-places. The Fairy Penguin appeared to be of a brighter colour than the larger species.

The young of both species were covered with very dark brown down, and obtained their food by putting their beak inside that of their parent—the young being very noisy at feeding-time. They do not leave the nest until fully fledged, although when about three-parts grown their parents leave them to themselves during the day. Two white eggs are laid, but these soon get discoloured by the dirt. I noticed that one was always considerably longer than the other, as will be seen by the measurements. Three clutches of “Little” Penguins measured:—A. (1) 2·31 inches  $\times$  1·73; (2) 2·50  $\times$  1·68. B. (1) 2·09 inches  $\times$  1·76; (2) 2·35  $\times$  1·77. C. (1) 2·18 inches  $\times$  1·68; (2) 2·27  $\times$  1·66.

The birds remained perfectly quiet all day on their nests, except when disturbed. They both pecked and scratched hard at the hand that attempted to take their eggs or young. The eggs and young found on the top of the island were, as a rule, not so far advanced as those nearer to the water.



5. *LARUS PACIFICUS.* (*Pacific Gull.*)

There was one pair of these birds on the island, and their nest was found on a high rocky point. It was lined with grass, and was well sheltered by high tussocks of grass on each side. The pair of handsomely marked eggs measured:— (1)  $2.97 \times 2$  inches; (2)  $2.99 \times 1.99$ .

Remains of shell-fish were plentiful about the nest. These birds also feed on any refuse that may be thrown up by the sea, as well as on young birds left unprotected.

6. *LARUS NOVE-HOLLANDIÆ.* (*Silvery Gull.*)

These pretty birds generally seemed to keep together, and they had a fair-sized colony on the island. It was situated on a shelving rocky headland, where some short tussocky grass grew in patches in clefts in the rocks, and it was amongst this vegetation that the birds made their nests, lining them with a little grass. These had two or three eggs or young in them, but those with two largely preponderated. The young are covered with down and prettily marked. The measurements of a clutch of three eggs taken are:—(1)  $2.17$  inches  $\times$   $1.59$ ; (2)  $2.21 \times 1.53$ ; (3)  $2.18 \times 1.61$ .

The variation in the markings of the different eggs was considerable. When disturbed the birds all hovered over their nesting-ground, continually uttering their cry, but soon settled again on being left alone. The presence of a neighbouring pair of Pacific Gulls would probably help to account for their anxiety to get back to their nests.

7. *GRACULUS LEUCOGASTER.* (*White-breasted Cormorant.*)

A small colony of these birds were building on ledges of the cliff, and had their grass nests in close proximity to those of the Shy Albatross; in one instance two Cormorants' nests were placed within a foot of that of an Albatross, and both bird and nest were plentifully besprinkled with their excreta. Most of the nests contained well-grown young; they were covered with very dark brown down. Only one clutch of eggs was found, measuring:—(1)  $2.45$  inches  $\times$   $1.47$ ; (2)  $2.46 \times 1.49$ .

The parent birds were very tame, allowing one in some instances to approach within two feet of them before they made any attempt to fly.

8. *CORVUS CORONOIDES.* (*White-eyed Crow.*)

A pair of these birds was noticed, and I saw one eating a Prion; the poor little bird was in a dreadfully mutilated condition, but still alive, when the Crow was driven off. These crows are very destructive to young and eggs on these islands. On the Penguin Rocks, not far from Albatross Island, I found a Crow's nest on December 2nd, built on a ledge of rock, with two young birds in it, just ready to fly. The nest was a large one and built of sticks. The absence of trees evidently made them choose this curious nesting-place.

9. *FALCO MELANOGENYS.* (*Black-cheeked Falcon.*)

One pair of these birds was seen and their nesting-place was discovered in a sheltered recess of a ledge of rock on the side of a cliff. They do not seem to make any nest, but lay their two eggs on the bare ground. One addled egg was found; it had unusually light brown markings and measured 2.09 inches  $\times$  1.65. A young bird was noticed flying about with the parents—evidently only one of the clutch had been hatched. Scattered about the nesting-place were remains of various Prions, which seem to be the principal food of the Falcons here. Most of the high rocky islands near were tenanted by a pair of these birds.

10. *DEMIEGRETTA SACRA.* (*Reef-Heron.*)

I found the stick nest of these birds on Penguin Rocks. It was situated about fifty feet above the sea, on a broad ledge of rock in a cavity under a large block of stone, and was difficult to get at. A blue-coloured bird was flushed off the nest, but its mate was not seen. The nest contained four fresh eggs, of a delicate bluish-white colour: their measurements were:—(1) 1.88  $\times$  1.41 inches; (2) 1.82  $\times$  1.40; (3) 1.81  $\times$  1.38; (4) 1.87  $\times$  1.39.

I was informed by those who live near these islands that the White and the Blue Reef-Herons often intermix, and that

in a nest with young found last season in a cave, one of the parents was white and the other blue.

11. PELECANUS CONSPICILLATUS. (*Australian Pelican.*)

About a dozen pairs of these birds nested on the Penguin Rocks on a small patch of clear ground just above high-water mark, and surrounded with high tussocky grass. The nests were very simple: a few sticks and bits of grass put together and almost level with the ground. There were one or two eggs or young in the nests, the latter being of various ages, from about three weeks old downwards. One little one, about three days old, managed in the absence of its parents to crawl from its rightful nest into that of its neighbour, which contained a bird about three weeks old. The elder bird immediately commenced vigorously pecking the little stranger, and would soon have killed it had the latter not been removed.

The young had no down on and their skin was bare; the regular lines of growth where the young feathers were appearing were plainly discernible. When they crawl they appear to stick their beaks into the soft soil and thus to pull themselves along, as they have not power to stand up and walk.

There appears to be some little time between the hatchings of the eggs in the same clutch, as one young bird was noticed being hatched while its companion was about seven days old; and in a clutch of two eggs taken, one was about five days more incubated than the other. Two eggs measured:—(1) 3.66 inches  $\times$  2.24; (2) 3.67  $\times$  2.25.

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XXXIV.—*On the Effect of Westerly Winds on the Flight of Gulls (Laridæ) and other Birds.* By J. H. GURNEY.

IN all birds it appears that wind, or the force of wind, is the prime mover in flight—that is to say, the action of the wings is greatly regulated by the direction and velocity of the wind, though, joined to this, the actual motive power is gravitation to the earth's surface. If there is absolutely no